

## INFORMATION DISCLOSURE STATEMENT

9

APPLICATION NO.  
09/987,457

FILING DATE .  
November 14, 2001

**GROUP  
1632**

## U.S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

		Yes
		No
		Yes
		No
	X	Yes
		No
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

Allen, S. et al., "Intracellular Folding of Tissue-type Plasminogen Activator. Effects of Disulfide Bond Formation on N-linked Glycosylation and Secretion," *J. Biol. Chem.* 270:4797-4804, The American Society for Biochemistry and Molecular Biology, Inc. (1995).

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Ames, G.F.-L. et al., "Simple, Rapid, and Quantitative Release of Periplasmic Proteins by Chloroform," *J. Bacteriol.* 160:1181-1183, American Society for Microbiology (1984).

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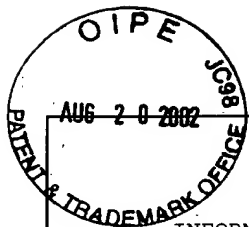
Barbas, C.F. III et al., "Assembly of combinatorial antibody libraries on phage surfaces: The gene III site," *Proc. Natl. Acad. Sci. U.S.A.* 88:7978-7982, The National Academy of Sciences of the U.S.A. (1991).

Konstantin Kabeurov

DATE CONSIDERED

7/7/02

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FORM PTO-1449

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Manosroi et al.FILING DATE  
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
K	AL2	WO 98/54199 A1	12/03/1998	WIPO			Yes No
K	AM2	EP 1 077 263 A1	02/21/2001	Europe			Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

K	AR	2	Barbas, C.F. III and J. Wagner, "Synthetic Human Antibodies: Selecting and Evolving Functional Proteins," <i>Methods</i> 8:94-103, Academic Press (1995).
K	AS	2	Bennett, W.F. et al., "High Resolution Analysis of Functional Determinants on Human Tissue-type Plasminogen Activator," <i>J. Biol. Chem.</i> 266:5191-5201, The American Society for Biochemistry and Molecular Biology, Inc. (1991).
L	AT	2	Betton, J.-M. et al., "Degradation versus Aggregation of Misfolded Maltose-binding Protein in the Periplasm of <i>Escherichia coli</i> ," <i>J. Biol. Chem.</i> 273:8897-8902, The American Society for Biochemistry and Molecular Biology, Inc. (1998).

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*Kristen Katchew*

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APPLICANT Manosroi et al.	
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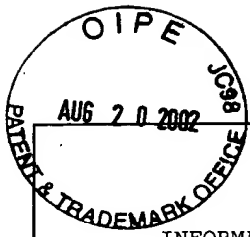
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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

R	AR	3	Camiolo, S.M. et al., "Fibrinogenolysis and Fibrinolysis with Tissue Plasminogen Activator, Urokinase, Streptokinase-Activated Human Globulin and Plasmin," <i>Proc. Soc. Exp. Biol. Med.</i> 138:277-280, Academic Press (1971).
K	AS	3	Cartwright, T., "Production of tPA from Animal Cell Cultures," In <i>Animal Cell Biotechnology</i> , Vol 5, R.E. Spier and J.B. Griffiths (eds.), Academic Press, N.Y. p. 217-245 (1992).
K	AT	3	Curry, K.A. et al., "Escherichia coli Expression and Processing of Human Interleukin-1 $\beta$ Fused to Signal Peptides," <i>DNA Cell Biol.</i> 9:167-175, Mary Ann Liebert, Inc. (1990).

EXAMINER <i>Kristina Patelius</i>	DATE CONSIDERED <i>1/7/03</i>
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K	AR	4	Datar, R.V. et al., "Process Economics of Animal Cell and Bacterial Fermentations: A Case Study Analysis of Tissue Plasminogen Activator," Bio/Technology 11:349-357, Nature Publishing Company (1993).
K	AS	4	Denèfle, P. et al., "Heterologous protein export in <i>Escherichia coli</i> : influence of bacterial signal peptides on the export of human interleukin 1 $\beta$ ," Gene 85:499-510, Elsevier Science Publishers B.V. (Biomedical Division) (1989).
L	AT	4	Griffiths, J.B. and A. Electricwala, "Production of Tissue Plasminogen Activators from Animal Cells," Adv. Biochem. Eng. Biotechnol. 34:147-166, Springer-Verlag (1987).

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*Kristina Kakeura*

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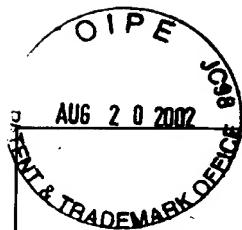
K	AR	<u>5</u>	Harris, T.J.R. et al., "Cloning of cDNA Coding for Human Tissue-type Plasminogen Activator and its Expression in <i>Escherichia coli</i> ," Mol. Biol. Med. 3:279-292, Academic Press Inc. (1986).
K	AS	<u>5</u>	Heussen, C. and E.B. Dowdle, "Electrophoretic Analysis of Plasminogen Activators in Polyacrylamide Gels Containing Sodium Dodecyl Sulfate and Copolymerized Substrates," Anal. Biochem. 102:196-202, Academic Press, Inc. (1980).
K	AT	<u>5</u>	Heussen, C. et al., "Purification of Human Tissue Plasminogen Activator with <i>Erythrina</i> Trypsin Inhibitor," J. Biol. Chem. 259:11635-11638, The American Society of Biological Chemists, Inc. (1984).

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*Kristina Kotelova*

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K	AR	6	Hu, C.-K. et al., "Tissue-Type Plasminogen Activator Domain-Deletion Mutant BM 06.022: Modular Stability, Inhibitor Binding, and Activation Cleavage," <i>Biochemistry</i> 33:11760-11766, American Chemical Society (1994).
K	AS	6	Kipriyanov, S.M. et al., "High level production of soluble single chain antibodies in small-scale <i>Escherichia coli</i> cultures," <i>J. Immunol. Methods</i> 200:69-77, Elsevier Science B.V. (1997).
K	AT	6	Ko, J.H. et al., "High-level Expression and Secretion of Streptokinase in <i>Escherichia coli</i> ," <i>Biotechnol. Lett.</i> 17:1019-1024, Chapman & Hall (1995).

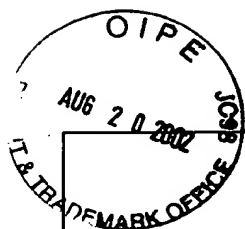
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*Konstantina Katsura*

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## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

K	AR	2	Kouzumata, Y. et al., "The Tissue-Type Plasminogen Activator Inhibitor ETIa from <i>Erythrina variegata</i> : Structural Basis for the Inhibitory Activity by Cloning, Expression, and Mutagenesis of the cDNA Encoding ETIa," <i>J. Biochem. (Tokyo)</i> 121:456-463, The Japanese Biochemical Society (1997).
K	AS	2	Lasters, I. et al., "Enzymatic properties of phage-displayed fragments of human plasminogen," <i>Eur. J. Biochem.</i> 244:946-952, Springer International on behalf of the Federation of European Biochemical Societies (1997).
K	AT	2	Lobel, L.I. et al., "Filamentous Phage Displaying the Extracellular Domain of the hLH/CG Receptor Bind hCG Specifically," <i>Endocrinology</i> 138:1232-1239, The Endocrine Society (1997).

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## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

K	AR	8	Lubiniecki, A. et al., "Selected Strategies for Manufacture and Control of Recombinant Tissue Plasminogen Activator Prepared from Cell Cultures," In <i>Advances In Animal Cell Biology and Technology for Bioprocesses</i> , R.E. Spier et al. (ed.), Butterworth & Co., London, p. 442-451 (1989).
K	AS	8	Lucic, M.R. et al., "Secretion in <i>Escherichia coli</i> and phage-display of recombinant insulin-like growth factor binding protein-2," <i>J. Biotechnol.</i> 61:95-108, Elsevier Science B.V. (1998).
K	AT	8	Martin, U. et al., "Properties of a novel plasminogen activator (BM 06.022) produced in <i>Escherichia coli</i> ," <i>Z. Kardiol.</i> 79:167-170, Steinkopff Verlag Darmstadt (1990).

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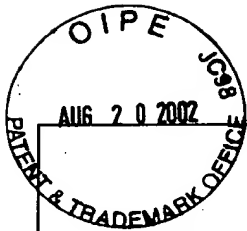
K	AR	2	Obukowicz, M.G. et al., "Secretion of Active Kringle-2-Serine Protease in <i>Escherichia coli</i> ," <i>Biochemistry</i> 29:9737-9745, American Chemical Society (1990).
K	AS	2	Parmley, S.F. and G.P. Smith, "Antibody-selectable filamentous fd phage vectors: affinity purification of target genes," <i>Gene</i> 73:305-318, Elsevier Science Publishers B.V. (1988).
K	AT	2	Pennica, D. et al., "Cloning and expression of human tissue-type plasminogen activator cDNA in <i>E. coli</i> ," <i>Nature</i> 301:214-221, Macmillan Journals Ltd. (1983).

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ll	AR	10	Rippmann, J.F. et al., "Procaryotic Expression of Single-Chain Variable-Fragment (scFv) Antibodies: Secretion in L-Form Cells of <i>Proteus mirabilis</i> Leads to Active Product and Overcomes the Limitations of Periplasmic Expression in <i>Escherichia coli</i> ," <i>Appl. Environ. Microbiol.</i> 64:4862-4869, American Society for Microbiology (1998).
l	AS	10	Saito, Y. et al., "Production and Characterization of a Novel Tissue-Type Plasminogen Activator Derivative in <i>Escherichia coli</i> ," <i>Biotechnol. Prog.</i> 10:472-479, American Chemical Society and American Institute of Chemical Engineers (1994).
k	AT	10	Sarmientos, P. et al., "Synthesis and Purification of Active Human Tissue Plasminogen Activator from <i>Escherichia coli</i> ," <i>Bio/Technology</i> 7:495-501, Nature Publishing Company (1989).

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u	AR	11	Scherrer, S. et al., "Periplasmic aggregation limits the proteolytic maturation of the <i>Escherichia coli</i> Penicillin G amidase precursor polypeptide," <i>Appl. Microbiol. Biotechnol.</i> 42:85-91, Springer-Verlag (1994).
u	AS	11	Soeda, S. et al., "Rapid and High-Yield Purification of Porcine Heart Tissue-Type Plasminogen Activator by Heparin-Sepharose Chromatography," <i>Life Sci.</i> 39:1317-1324, Pergamon Journals Ltd. (1986).
u	AT	11	Szarka, S.J. et al., "Staphylokinase as a Plasminogen Activator Component in Recombinant Fusion Proteins," <i>Appl. Environ. Microbiol.</i> 65:506-513, American Society for Microbiology (February 1999).

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K	AR	12	Waldenström, M. et al., "Synthesis and secretion of a fibrinolytically active tissue-type plasminogen activator variant in <i>Escherichia coli</i> ," <i>Gene</i> 99:243-248 (1991).
K	AS	12	Wan, E.W.-M., "TolAIII Co-overexpression Facilitates the Recovery of Periplasmic Recombinant Proteins into the Growth Medium of <i>Escherichia coli</i> ," <i>Protein Expr. Purif.</i> 14:13-22, Academic Press (1998).
K	AT	12	Zacharias, U. et al., "Characterization of Human Tissue-type Plasminogen Activator with Monoclonal Antibodies: Mapping of Epitopes and Binding Sites for Fibrin and Lysine," <i>Thromb. Haemost.</i> 67:88-94, F.K. Schattauer Verlagsgesellschaft mbH (1992).

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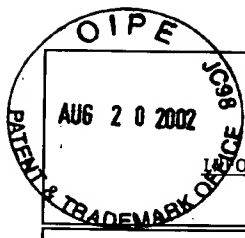
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h	AR	13	Andris-Widhopf, J., et al., "Methods for the generation of chicken monoclonal antibody fragments by phage display," J. Immunol. Meth. 242:159-181, Elsevier Science B.V. (August 2000).
h	AS	13	Hu, S.-z, et al., "Minibody: A Novel Engineered Anti-Carcinoembryonic Antigen Antibody Fragment (Single-Chain Fv-C <sub>H</sub> 3) Which Exhibits Rapid, High-Level Targeting of Xenografts," Cancer Res. 56:3055-3061, American Association for Cancer Research (1996).
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09/987,457APPLICANT  
Manosroi *et al.*FILING DATE  
November 14, 2001GROUP  
1632

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

K	AR	14	Kortt, A.A., <i>et al.</i> , "Single-chain Fv fragments of anti-neuraminidase antibody NC10 containing five- and ten-residue linkers form dimers and with zero-residue linker a trimer," <i>Protein Eng.</i> 10:423-433, Oxford University Press (1997).
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K	AT	14	Manosroi, J., <i>et al.</i> , "Secretion of Active Recombinant Human Tissue Plasminogen Activator Derivatives in <i>Escherichia coli</i> ," <i>Appl. Env. Microbiol.</i> 67:2657-2664, American Society for Microbiology (June 2001).

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



FORM PTO-1449

INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.  
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
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	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

**OTHER (Including Author, Title, Date, Pertinent Pages, etc.)**

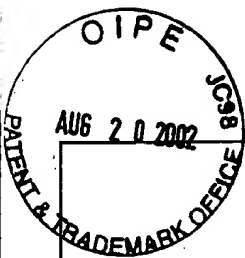
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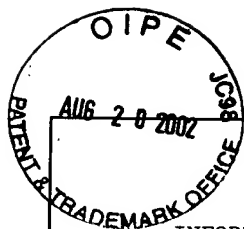
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<i>K</i>	AS	<u>17</u>	Dialog File 351, Accession No. 13502244, Derwent WPI English language abstract for EP 1 048 732 A1 (Document AN1).
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	AM						Yes No
	AN						Yes No
	AO						Yes No
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L	AT	18	Qiu, J., et al., "Expression of Active Human Tissue-Type Plasminogen Activator in <i>Escherichia coli</i> ," <i>Appl. Environ. Microbiol.</i> 64:4891-4896, American Society for Microbiology (1998).

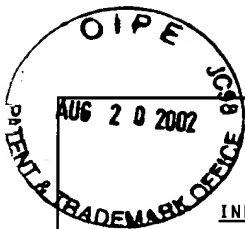
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	AL						Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
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<i>R</i>	AR	<u>19</u>	Zi-Chun, H., <i>et al.</i> , "Synthesis and Expression of a Gene From Kringle-2 Domain of Tissue Plasminogen Activator in <i>E. coli</i> ," <i>Sci. China B</i> . 37:667-676, Chinese Academy of Sciences (1994).
<i>K</i>	AS	<u>19</u>	Dialog File 351, Accession No. 2001-204356/ 200121, Derwent WPI English language abstract for European Patent Application No. 1 077 263 A1 (Document AM2).
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